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EXAMINER
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HINZE, LEO T

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/554,927	<b>Applicant(s)</b> BUDACH ET AL.	
	<b>Examiner</b> LEO T. HINZE	<b>Art Unit</b> 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 55-103 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 55-103 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, filed 36 March 2008, have been fully considered and are persuasive. Specifically, the examiner agrees with Applicant's arguments that Saino '577 fails to teach scanning a multiple color printed reference image separate drive mechanisms for the forme cylinder and counter-pressure cylinder.
2. Because the above arguments are persuasive, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the prior art as set forth below.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 55-67, 71-80, and 85-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sainio et al., US 5,412,577 A (hereinafter '577) in view of Bolza-Schuneman et al., US 6,332,397 B1 (hereinafter Bolza-Schuneman) and Kipphan et al., US 6,050,192 A (hereinafter Kipphan).
- a. Regarding claim 55:

'577 teaches a device for regulating at least one register in a printing press comprising: at least one printing group (14-18, Fig. 1); at least one forme cylinder (24, Fig. 1), one transfer cylinder (22, Fig. 1) and one counter-pressure cylinder (26, Fig. 1; each forme cylinder acts as a counter-pressure cylinder to another forme cylinder) in said at least one printing group and adapted to print a multiple color printed image ("multi-color printing press," col. 1, l. 13) on an imprinting substrate being printed in multiple colors in said printing group ("each print one color of the image upon web 12," col. 4, ll. 60-61) and traveling in a substrate direction of travel (substrate 12 travels from left to right, Fig. 1); an image sensor, said image sensor being adapted to record a multiple color printed image of a width of said imprinting substrate (34, 36, 37, Fig. 1) transverse to said substrate direction of travel and to generate data correlated with said image (col. 2, ll. 11-45); an evaluating unit (32, Fig. 1), said evaluating unit being adapted to receive said data of said multiple color printed image recorded during a running production of said printing press and to compare multiple parameters of said data with reference data of a previously recorded image ("compare the data produced from the reference areas of the reprinting plates during printing plate scanning (pre-press image data) and the data produced by scanning the reference areas of the printed image during printing," col. 9, ll. 16-20), said evaluation unit separating said image into color separations ("computer 32 performs color conversion by multiplying a color separation matrix," col. 10, ll. 22-23) and being adapted to perform a relative position determination of said color separations with respect to color separations of said previously recorded reference image (col. 2, ll. 39-45); a forme cylinder drive

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mechanism adapted to be controlled separately from said counter-pressure cylinder assigned to said at least one forme cylinder ("precisely control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12," col. 5, ll. 15-17 – the ability to precisely position each cylinder implies an ability to control each separately); an actuator for said forme cylinder drive mechanism (each drive mechanism inherently has an actuator, as there must be some means of actuating each drive mechanism), said evaluation unit being adapted to generate an actuating command to said forme cylinder drive mechanism actuator to regulate a register of said forme cylinder in response to said data comparison, said evaluating unit performing said relative position determination of said color separations of said width of said multiple color image as provided by said image sensor ("controller 30 converts the signals from computer 32," col. 5, ll. 10-11); and a pre-printing stage located upstream, in said direction of travel of said substrate, said printing press, said data of said image recorded during said running production being correlated with said reference data of said previously recorded reference image recorded in said pre-printing stage, said reference image having proper registration of said multiple color image (plate scanner 38, Fig. 1; col. 6, ll. 22-26).

'577 does not teach reference data of a previously recorded multiple color printed image; and separate drives for the forme and counter-pressure cylinders.

Bolza-Schuneman teaches an offset printing machine having forme (2, Fig. 1) and counter-pressure (6, Fig. 1) cylinders driven by separate motors (24, 26, Fig. 1).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 wherein the forme and counter-pressure cylinders were driven by separate motors as taught by Bolza-Schuneman, because such a substitution of known prior art elements would predictably provide a printing machine with separately controlled cylinders.

Kipphan teaches a process and arrangement for controlling a printing machine (Fig. 1), including using as reference data for registration information taken from a scan of a printed multiple color image ("another possibility of providing reference variable consists in that the reference signals are taken from an image-measuring device on which an accurately positioned original has been scanned," col. 8, ll. 33-36).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 wherein the reference data is taken from a previously recorded multiple color printed image as taught by Kipphan, because this would predictably provide accurate reference data from which to determine the register of the printing machine.

b. Regarding claim 56, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. The combination of '577, Bolza-Schuneman, and Kipphan also teaches means for supplying ink to said at least one forme cylinder, said actuator generating said actuating command to an actuating drive mechanism for said means for supplying ink from said data comparison ("each print one color of the image upon web 12," col. 4, ll. 60-61, the ability

to print implies an ink supply device, and a drive mechanism to actuate the ink supply device).

c. Regarding claim 57:

'577 teaches a device for controlling register and color density in a printing press comprising: at least one printing group (14-18, Fig. 1) having at least one forme cylinder (24, Fig. 1), one transfer cylinder (22, Fig. 1) and one counter-pressure cylinder (26, Fig. 1; each forme cylinder acts as a counter-pressure cylinder to another forme cylinder), said printing group imprinting a substrate in color ("each print one color of the image upon web 12," col. 4, ll. 60-61); an image sensor usable to record an image of said imprinting substrate and to generate data correlated with said image (34, 36, 37, Fig. 1); an evaluating unit usable to receive said image data and data of a previously generated image (32, Fig. 1), said evaluation unit separating said image data and said previous image data into color separations ("computer 32 performs color conversion by multiplying a color separation matrix," col. 10, ll. 22-23), said evaluating unit further performing a relative positional determination of said image data in relation to said previous image data ("compare the data produced from the reference areas of the reprinting plates during printing plate scanning (pre-press image data) and the data produced by scanning the reference areas of the printed image during printing," col. 9, ll. 16-20); an ink supply to said at least one printing group and having an ink supply drive mechanism ("each print one color of the image upon web 12," col. 4, ll. 60-61, the ability to print implies an ink supply device, and a drive mechanism to actuate the ink supply device); a register regulatory drive mechanism ("precisely control longitudinal,

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lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12,” col. 5, ll. 15-17 – the ability to precisely position each cylinder implies an ability to control each separately); and means in said evaluating unit for correcting differences detected by said relative positional determination in one of a substrate transport direction and a direction transverse to said transport direction into actuating commands for said ink supply drive mechanism and said register regulatory drive mechanism (“precisely control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12,” col. 5, ll. 15-17 – the ability to precisely position each cylinder implies an ability to control each separately).

‘577 does not teach reference data of a previously recorded multiple color printed image.

Bolza-Schuneman teaches an offset printing machine having forme (2, Fig. 1) and counter-pressure (6, Fig. 1) cylinders driven by separate motors (24, 26, Fig. 1).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify ‘577 wherein the forme and counter-pressure cylinders were driven by separate motors as taught by Bolza-Schuneman, because such a substitution of known prior art elements would predictably provide a printing machine with separately controlled cylinders.

Kipphan teaches a process and arrangement for controlling a printing machine (Fig. 1), including using as reference data for registration information taken from a scan of a printed multiple color image (“another possibility of providing reference variable



consists in that the reference signals are taken from an image-measuring device on which an accurately positioned original has been scanned,” col. 8, ll. 33-36).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify ‘577 wherein the reference data is taken from a previously recorded multiple color printed image as taught by Kipphan, because this would predictably provide accurate reference data from which to determine the register of the printing machine.

d. Regarding claim 58, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches wherein said image sensor is directed onto said imprinting substrate (“four cameras focused at the same position 50 of printed web 12,” col. 5, ll. 32-33).

e. Regarding claim 59, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches wherein said image sensor covers said imprinting substrate transversely to said transport direction (web 12 appears to travel transversely to the camera 32, Fig. 1).

f. Regarding claim 60, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches a forme cylinder drive mechanism adapted to be controlled separately from said counter-pressure cylinder (“precisely control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12,” col. 5, ll. 15-17 – the ability to precisely position each cylinder implies an ability to control each separately).

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g. Regarding claim 61, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said evaluating unit performs said relative position determination by a correlation method ("correlation circuit 118 multiplies the complex conjugate..." col. 11, ll. 38-41).

h. Regarding claim 62, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said evaluating unit performs said relative position determination by a cross-correlation method ("computer 32 is also programmed to operate as a circuit which performs two-dimensional cross correlations," col. 11, ll. 8-10).

i. Regarding claim 63, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said relative position determination is capable of being performed several times ("computer 32 controls the times at which the cameras of assembly 36 scan the printed image... these times are based upon the rotational position of one of the blanket cylinders," col. 8, ll. 50-55).

j. Regarding claim 64:

The combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. The combination of '577, Bolza-Schuneman, and Kipphan is silent as to the details of the inking mechanism and whether a dampening system is required.

The combination of '577, Bolza-Schuneman, and Kipphan does not teach a dampening agent supply and means for regulating said dampening agent supply in response to said data comparison.

Kipphan teaches a process and arrangement for controlling a printing machine, including controlling a dampening solution distribution device.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 to include a dampening distribution device as taught by Kipphan, because one having ordinary skill in the art would recognize that the addition of the well-known dampening device may be necessary for certain types of offset printing.

k. Regarding claim 65, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said register of said forme cylinder is one of a circumferential register, and a lateral register of said forme cylinder with respect to said transfer cylinder associated with said forme cylinder ("precisely control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12," col. 5, ll. 15-17 – the ability to precisely position each cylinder implies an ability to control each separately).

l. Regarding claim 66, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said actuator an angular relation of said forme cylinder ("precisely

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control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12,” col. 5, ll. 15-17).

m. Regarding claim 67, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches a data network (86, Fig. 1) connected to said evaluating unit, said drive mechanisms being correlated to said data network.

n. Regarding claim 71, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. ‘577 also teaches a memory device in said evaluating unit and adapted to store sequences of said recorded image (33, Fig. 1).

o. Regarding claim 72, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches wherein said printing press applies at least one printed image to said imprinting substrate (“each print one color of the image upon web 12,” col. 4, ll. 60-61).

p. Regarding claim 73, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches wherein said regulation is capable of taking place simultaneously with an inspection of said printed image (“system detects print color misregistration based upon the signals produced by the imaging device as a result of scanning the printed image,” abstract; “control a print controller which controls the print units such that the colors of the printed image are placed into registration,” abstract; ‘577 is silent as to the exact

correlation between regulation and inspection, but as the machine prints a web, it is implied that scanning and register correction are taking place simultaneously).

q. Regarding claim 74, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches several of said printing groups (14-18, Fig. 1) arranged in said printing press in said direction of transport of said imprinting substrate (12, Fig. 1) and wherein said image sensor is located in an outlet of a last one of said printing groups (see location of camera 36 at outlet of printing group 20, Fig. 1).

r. Regarding claim 75, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches a delivery device for said printing press and wherein said image sensor is located at said delivery device (camera 36 is located at part of press which "delivers" web 12 from printing unit 20, Fig. 1).

s. Regarding claim 76, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said evaluating unit checks a registration maintenance during said running production of said printing press ("when the printed colors are not in substantial registration .... system 10 is configured to perform a primary registration process," col. 13, ll. 58-67).

t. Regarding claim 77, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 76 as discussed in the rejection of claim 76 above. '577 also teaches wherein said evaluating unit is capable of checking at least one of a

shading change and a registration maintenance during said running production of said printing press (“computer 32 controls the times at which the cameras of assembly 36 scan the printed image... these times are based upon the rotational position of one of the blanket cylinders,” col. 8, ll. 50-55).

u. Regarding claim 78, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. ‘577 also teaches wherein said evaluating unit classifies checked printed copies into groups of different quality (computer 32 causes a registration adjustment when printed copies are found to be classified in the “unacceptable” group, Abstract).

v. Regarding claim 79, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. ‘577 also teaches wherein said evaluating unit is adapted to store data for use in determining quality of printed products (data stored in memory 32, Fig. 1).

w. Regarding claim 80, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches at least one of an imprinting substrate transport device (web 12 is transported through the printing units, Fig. 1) and an imprinting substrate marking device (“each print one color of the image upon web 12,” col. 4, ll. 60-61) and means in said evaluating unit for issuing an actuating command to said at least one of said transport device and said marking device when said image data exceeds a permissible tolerance limit (“determine a registration offset between the first and second colors and produces a signal representative of the registration offset,” col. 3, ll. 8-10; “precisely

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control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12,” col. 5, ll. 15-17).

x. Regarding claim 85, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. ‘577 also teaches wherein said evaluating unit is adapted to change at least one register in said printing press to obtain registration accuracy (“precisely control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12,” col. 5, ll. 15-17).

y. Regarding claim 86, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches wherein said data of said previously generated image is correlated with said image recorded by said image sensor (“compare the data produced from the reference areas of the reprinting plates during printing plate scanning (pre-press image data) and the data produced by scanning the reference areas of the printed image during printing,” col. 9, ll. 16-20).

z. Regarding claim 87, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above. ‘577 also teaches a pre-printing device located upstream, in a direction of travel of said imprinting substrate, said data of a previously generated image being correlated with an image generated in said pre-printing stage (plate scanner 38, Fig. 1, is located at an upstream position in the printing process).

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aa. Regarding claim 88, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 87 as discussed in the rejection of claim 87 above. '577 also teaches a data processing device in said pre-printing stage and correlated with said evaluating unit, said data processing device transmitting data of previously generated images to said evaluating device ("scan each plate associated with the printing of a particular printed image and determine the locations in the image at which the colors of the image are being printed," col. 6, ll. 22-27).

bb. Regarding claim 89, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches including several of said printing groups (14-18, Fig. 1), each said forme cylinder of each said printing group being controlled independently of said forme cylinder of another of said several printing groups ("precisely control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28 relative to moving web 12," col. 5, ll. 15-17 – the ability to precisely position each cylinder implies an ability to control each separately).

cc. Regarding claim 90, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 89 as discussed in the rejection of claim 89 above. '577 also teaches wherein said evaluating unit is adapted to set one of mutual angular relation and phase relation of said forme cylinder involved in printing said color image in said imprinting substrate ("precisely control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28," col. 5, ll. 15-17).

dd. Regarding claim 91:



The combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above.

The combination of '577, Bolza-Schuneman, and Kipphan is silent as to the coaxial relationship between said forme cylinder drive mechanism and a shaft of said forme cylinder.

A person having ordinary skill in the art would know that there are only two possible orientations for the shafts of the forme cylinder drive mechanism and a forme cylinder – coaxial or not coaxial.

ee. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to arrange the axes of said forme cylinder drive mechanism and a shaft of said forme cylinder to be coaxial, because a person having ordinary skill in the art would recognize that there are a limited number of variations on the arrangement, and that a coaxial arrangement may provide the most efficient operating parameters.

ff. Regarding claim 92, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said drive mechanism for said forme cylinder is rigidly connected with a shaft of said forme cylinder ("precisely control longitudinal, lateral, and rotational positioning of cylinders 22, 24, 26, 28," col. 5, ll. 15-17 – the ability to precisely control the cylinder implies a rigid connection).

gg. Regarding claim 93, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches printing groups in said printing press (14-20, Fig. 1) and wherein said

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counter-pressure cylinders in said several printing groups are mechanically connected (counter-pressure cylinders appear to be mechanically connected, Fig 1).

hh. Regarding claim 94:

The combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 93 as discussed in the rejection of claim 93 above.

The combination of '577, Bolza-Schuneman, and Kipphan does not teach wherein said counter-pressure cylinder in said several printing groups have a common drive mechanism.

A person having ordinary skill in the art would recognize that the several printing mechanisms could have individual drives or share a common drive, and that each arrangement may have particular advantages or disadvantages.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 to use a common drive mechanism, because a person having ordinary skill in the art would recognize that this may reduce the part count and complexity of the printing machine.

ii. Regarding claim 95:

The combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 93 as discussed in the rejection of claim 93 above.

The combination of '577, Bolza-Schuneman, and Kipphan does not teach a drive mechanism for said counter-pressure cylinders and being separate from a drive mechanism for said forme cylinders and said transfer cylinders of said several printing groups.

A person having ordinary skill in the art would recognize that the several printing mechanisms could have individual drives or share a common drive, and that each arrangement may have particular advantages or disadvantages.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 to use a drive mechanism for said counter-pressure cylinders and being separate from a drive mechanism for said forme cylinders and said transfer cylinders of said several printing groups, because a person having ordinary skill in the art would recognize that this may allow more precise control of each individual form cylinder and transfer cylinder.

jj. Regarding claim 96:

The combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above.

The combination of '577, Bolza-Schuneman, and Kipphan does not teach wherein said forme cylinder drive mechanism drives said transfer cylinder associated with said forme cylinder.

A person having ordinary skill in the art would recognize that each forme cylinder and transfer cylinder could have individual drives or share a common drive, and that each arrangement may have particular advantages or disadvantages.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 wherein said forme cylinder drive mechanism drives said transfer cylinder associated with said forme cylinder, because a person

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having ordinary skill in the art would recognize that this may reduce the part count and complexity of the printing machine.

kk. Regarding claim 97, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said evaluating unit performs an analysis of portions of said printed image using said data of a previously recorded image ("compare the data produced from the reference areas of the reprinting plates during printing plate scanning (pre-press image data) and the data produced by scanning the reference areas of the printed image during printing," col. 9, ll. 16-20).

ll. Regarding claim 98, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 97 as discussed in the rejection of claim 97 above. '577 also teaches wherein said portions of said printed images are ones with substantially all color ("determine portions (reference areas) of the printed image produced by the C, M, Y, and K printing plates which include all of the colors being printed," col. 6, ll. 40-44).

mm. Regarding claim 99, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 97 as discussed in the rejection of claim 97 above. '577 also teaches wherein said evaluating device determines portions of individual color components of said printed image ("computer 32 performs color conversion ... to produce a CMYK vector for each pixel," col. 10, ll 21-25).

nn. Regarding claim 100, the combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 also teaches wherein said evaluating unit converts positional differences detected by

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said relative position determination between color separation provided from said data into at least one actuating command (“determine a registration offset between a first and second colors and produces a signal representative of the registration offset,” col. 3, ll. 8-10).

oo. Regarding claim 101, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. ‘577 also teaches wherein said evaluating unit is capable of evaluating suitable portions of a special color image different from standard colors of a colored image (it appears that system 10 can evaluate CMYK images, and any other color images, such as RGB, col. 9, ll. 16-20).

pp. Regarding claim 102, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 97 as discussed in the rejection of claim 97 above. ‘577 also teaches wherein said evaluating unit stores said printed images in a memory device (33, Fig. 1).

qq. Regarding claim 103, the combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 102 as discussed in the rejection of claim 102 above. ‘577 also teaches wherein said printed images are stored in said memory device at a desired position (memory inherently stores things in a desired position – storage in an undesired position would be inefficient, as then one would not be able to retrieve the information, due to its presence in an undesired location).

5. Claims 68-70 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over '577 in view of Bolza-Schuneman, and Kipphan as applied to claims 55 and 57 above, and further in view of Chretinat et al., US 6,810,813 B2 (hereafter Chretinat).

a. Regarding claim 68:

The combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above.

The combination of '577, Bolza-Schuneman, and Kipphan does not teach a company network and a connection between said evaluating unit and said company network.

Chretinat teaches a device and method for controlling registration in a printing press, including a company network and a connection between said evaluating unit and said company network (col. 4, ll. 42-47).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 to include a company network and a connection between said evaluating unit and said company network as taught by Chretinat, because a person having ordinary skill would be able to combine the prior art elements to create a registration system that is remotely adjustable over the network.

b. Regarding claim 69:

The combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above.

The combination of '577, Bolza-Schuneman, and Kipphan does not teach an input and output unit adapted to provide correction options for said actuating command,

said evaluating unit being in a bidirectional data exchange with said input and output unit.

Chretinat teaches an input and output unit adapted to provide correction options for said actuating command, said evaluating unit being in a bidirectional data exchange with said input and output unit (“touch screen registration control 96,” col. 4, ll. 42-47).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify ‘577 to include an input and output unit adapted to provide correction options for said actuating command, said evaluating unit being in a bidirectional data exchange with said input and output unit as taught by Chretinat, because a person having ordinary skill would be able to combine the prior art elements to create a registration system that is remotely adjustable.

c. Regarding claim 70, the combination of ‘577 and Chretinat teaches the device of claim 69 as discussed in the rejection of claim 69 above. The combination of ‘577 and Chretinat also teaches a monitor in said input and output unit and adapted to display said recorded image (“touch screen registration control 96,” col. 4, ll. 42-47).

d. Regarding claim 84:

The combination of ‘577, Bolza-Schuneman, and Kipphan teaches the device of claim 57 as discussed in the rejection of claim 57 above.

The combination of ‘577, Bolza-Schuneman, and Kipphan does not teach means changing said ink supply using said evaluating unit in response to a shading change exceeding a permissible tolerance limit.

Chretienat teaches means changing said ink supply using said evaluating unit in response to a shading change exceeding a permissible tolerance limit ("a different second operational mode is provided to the operator for altering characteristics of the individual pages of the book, such as ink zone control," abstract).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 to include means changing said ink supply using said evaluating unit in response to a shading change exceeding a permissible tolerance limit as taught by Chretienat, because a person having ordinary skill would be able to combine the prior art elements to create a registration system that also adjusts inking parameters.

6. Claims 81-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over '577 in view of Bolza-Schuneman, and Kipphan as applied to claim 55 above, and further in view of Sainio et al., US 6,796,240 B2 (hereafter '240).

a. Regarding claim 81:

The combination of '577, Bolza-Schuneman, and Kipphan teaches the device of claim 55 as discussed in the rejection of claim 55 above. '577 inherently teaches the computer 32 receiving an angular position signal (the system 10 must know the angular position of the forme cylinder to be able to accurately achieve registration), but is silent as to the device used to provide the signal

The combination of '577, Bolza-Schuneman, and Kipphan does not teach an angle encoder installed on said at least one printing group and adapted to synchronize



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a frequency of recording of said images with a transport speed of said imprinting substrate.

'240 teaches an angle encoder installed on said at least one printing group and adapted to synchronize a frequency of recording of said images with a transport speed of said imprinting substrate (col. 8, ll. 25-30).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify '577 to include an angle encoder installed on said at least one printing group and adapted to synchronize a frequency of recording of said images with a transport speed of said imprinting substrate as taught by '240, because a person having ordinary skill would be able to combine the prior art and use a well-known encoder to provide angular position signals.

b. Regarding claim 82, the combination of '577, Bolza-Schuneman, Kipphan, and '240 teaches the device of claim 81, as discussed in the rejection of claim 81 above. The combination of '577, Bolza-Schuneman, Kipphan, and '240 also teaches wherein said angle encoder is installed in said printing group having said image sensor (the encoder would inherently be installed in a printing group to properly provide angular positions of a cylinder in the printing group).

c. Regarding claim 83, the combination of '577, Bolza-Schuneman, Kipphan, and '240 teaches the device of claim 81, as discussed in the rejection of claim 81 above. The combination of '577, Bolza-Schuneman, Kipphan, and '240 also teaches wherein said angle encoder transmits an output signal to said evaluating unit "(240: "press encoder signal," col. 8, l. 28).

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is 571.272.2864. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571.272.2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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/Anthony H Nguyen/  
Primary Examiner, Art Unit 2854

Leo T. Hinze  
Patent Examiner  
AU 2854  
30 May 2008